

In the Claims

1. (currently amended) A security mechanism for identifying authorized users and reacting to detection of unauthorized users during any phase of an aircraft flight, the system comprising:

a controller operable by a user;

a security device to read information associated with the user attempting to operate the controller, the security device being located so as to be able to read the information at any time while the user is attempting to operate the controller; and

one or more monitoring devices storing information as to all users authorized to operate the controller and comparing the information of the user attempting to operate the controller against the stored information as to all authorized users to determine whether the user is authorized to operate the controller, the stored information having been loaded into the monitoring device prior to flight;

the one or more monitoring devices being operable to disable the controller and engage an autopilot if an unauthorized user is detected at the controller at any time during any phase of an aircraft flight, comprising starting up of the aircraft, movement of the aircraft from a fixed position, take-off or landing of the aircraft, taxiing of the aircraft as well as in the air flight.

2. (previously presented) A security mechanism of claim 1, wherein the security device comprises at least one biometric device.

3. (original) A security mechanism of claim 2, wherein the at least one biometric device comprises a fingerprint/pulse reader on the controller.

4. (original) A security mechanism of claim 3, wherein the at least one biometric device further comprises a retina reader on the controller.

5. (previously presented) A security mechanism of claim 1, wherein the controller comprises a control manually operable by a pilot to fly an aircraft.

6. (previously presented) A security mechanism of claim 1, wherein the one or more monitoring devices comprises at least one computer and the security device comprises at least one biometric device, with the at least one biometric device reading a characteristic of the user that is compared against biometric information stored in the at least one computer.

7. (original) A security mechanism of claim 6, further comprising one or more control mechanisms in communication with the one or more monitoring devices, with the one or more monitoring devices regulating the one or more control mechanisms to restrict operation based on whether or not the user is authorized to operate the controller.

8. (currently amended) A security system for restricting operation of an aircraft during any phase of flight comprising:

two or more biometric devices of different types for reading biometric information of a person at a rudder control attempting to operate the aircraft, the two or more biometric devices being located so as to be able to read the information at any time during flight;

one or more monitoring systems in communication with the two or more biometric devices, the one or more monitoring systems storing biometric information concerning all persons authorized to operate the aircraft and receiving the biometric information read by the two or more biometric devices, the one or more monitoring systems further comparing the

biometric information read by the two or more biometric devices against the stored biometric information concerning all authorized persons to operate the aircraft; and

one or more control mechanisms in communication with the one or more monitoring systems to regulate operation of the aircraft based on whether or not an authorized person has been identified during any phase of an aircraft flight, comprising starting up of the aircraft, movement of the aircraft from a fixed position, take-off or landing of the aircraft, taxiing of the aircraft as well as in the air flight.

9. (previously presented) A security system of claim 8, wherein the one or more biometric devices comprises a fingerprint reader on at least one of a control of the aircraft, an access door to the cockpit area, or an access door to a storage compartment.

10. (previously presented) A security system of claim 9, wherein the one or more biometric devices comprises a pulse reader on at least one of a control of the aircraft, an access door to the cockpit area, or an access door to a storage compartment.

11. (previously presented) A security system of claim 10, wherein the one or more biometric devices comprises a retina reader mounted in the cockpit area or on the control of the aircraft.

12. (original) A security system of claim 8, wherein the one or more monitoring systems comprises at least one computer and the one or more biometric devices comprises at least one of a fingerprint reader, a pulse reader or a retina reader.

13. (previously presented) A security system of claim 12, wherein the one or more control

mechanisms comprises at least one of an auto pilot control system, a control, an aircraft beacon system, a GPS system or any other system controlled by a control.

14. (currently amended) A method for regulating operation of an aircraft during all phase of flight comprising:

prior to each flight, loading biometric information electronically regarding all persons of a designated flight authorized to operate the aircraft;

receiving biometric information read by one or more biometric devices from any person attempting to operate the aircraft at any time during flight;

comparing the received biometric information against the biometric information that was loaded prior to flight to determine whether the person attempting to operate the aircraft at any time during flight is authorized to operate the aircraft, wherein during flight comprises the phases of starting up of the aircraft, movement of the aircraft from a fixed position, take-off or landing of the aircraft, taxiing of the aircraft as well as in the air flight; and

allowing authorized persons to operate the aircraft.

15. (original) The method of claim 14 further comprising performing a biometric check of persons authorized to operate the aircraft prior to flight.

16. (original) The method of claim 14, wherein operating comprises at least one of flying the aircraft, opening an access door to the cockpit area, or opening an access door to a storage compartment.

17. (previously presented) The method of claim 16, wherein attempting to fly the aircraft comprises grasping of a control.

18. (previously presented) The method of claim 17, wherein reading biometric information comprises at least one of reading fingerprints, pulses or retina of the person attempting to fly the aircraft when the person is grasping the control or attempting to open an access door to the cockpit area or storage compartment.

19. (previously presented) The method of claim 18, wherein reading biometric information further comprises reading fingerprints, pulses and retina of the person when the person is grasping the control.

20. (previously presented) The method of claim 17, further comprising restricting function of the control if it is determined that the person is not authorized to fly the aircraft.

21. (original) The method of claim 17, further comprising operating the aircraft in auto pilot mode when an unauthorized person attempts to fly the aircraft.

22. (original) The method of claim 17, further comprising alerting authorities outside of the aircraft when an unauthorized person attempts to fly the aircraft.

23. (original) The method of claim 17, further comprising sending of at least one of biometric information or photograph read from an unauthorized person to authorities outside of the aircraft.

24. (previously presented) The method of claim 17, wherein reading biometric information comprises reading pulses of the person when the person is grasping the control, the method further comprising alerting authorities outside of the aircraft when there is an unusual pulse reading from the person.

25. (original) The method of claim 16, wherein reading biometric information comprises a retina read of the person attempting to fly the aircraft when the person is seated in either a pilot or copilot seat.

26. (original) The method of claim 25, further comprising engaging or disengaging the auto pilot where it is determined that an authorized person is in the pilot or copilot seat.

27. (currently amended) A system for regulating operation of an aircraft during all phases of flight comprising:

means for, prior to each flight, loading biometric information electronically regarding all persons of a designated flight authorized to operate the aircraft;

means for receiving biometric information read by one or more means for reading biometric information from any person attempting to operate the aircraft at any time during flight; and

means for comparing the received biometric information against the biometric information that was loaded prior to flight to determine whether the person attempting to operate the aircraft at any time during flight is authorized to operate the aircraft, wherein during flight comprises the phases of starting up of the aircraft, movement of the aircraft from a fixed position, take-off or landing of the aircraft, taxiing of the aircraft as well as in the air flight.

28. (original) The system of claim 27 further comprising means for performing a biometric check of persons authorized to operate the aircraft prior to flight.

29. (original) The system of claim 27, wherein operating comprises at least one of flying the aircraft, opening an access door to the cockpit area, or opening an access door to a storage compartment.

30. (previously presented) The system of claim 29, further comprising a control that is grasped by persons attempting to fly the aircraft.

31. (previously presented) The system of claim 30, wherein the biometric reading means comprises at least one of a fingerprint reader, a pulses reader or a retina reader on at least one of the control or an access door to the cockpit area or a storage compartment.

32. (previously presented) The system of claim 31, wherein the biometric reading means further comprises a fingerprint reader, a pulses reader and a retina reader on at least one of the control or an access door to the cockpit area or a storage compartment.

33. (previously presented) The system of claim 30, further comprising means for restricting function of the control if it is determined that the person is not authorized to fly the aircraft.

34. (original) The system of claim 30, further comprising means for operating the aircraft in auto pilot mode when an unauthorized person attempts to fly the aircraft.

35. (original) The system of claim 30, further comprising means for alerting authorities outside of the aircraft when an unauthorized person attempts to fly the aircraft.

36. (original) The system of claim 30, further comprising means for sending at least one of biometric information or photograph read from an unauthorized person to authorities outside of the aircraft.

37. (previously presented) The system of claim 30, wherein the biometric reading means comprises a pulse reader for reading pulses of the person when the person is grasping the control, the system further comprising means for alerting authorities outside of the aircraft when there is an unusual pulse reading from the person.

38. (original) The system of claim 29, wherein the biometric reading means comprises a retina reader for reading the retina of the person attempting to fly the aircraft when the person is seated in either a pilot or copilot seat.

39. (original) The system of claim 38, further comprising means for engaging or disengaging the auto pilot where it is determined that an authorized person is in the pilot or copilot seat.

40. (currently amended) An aircraft comprising:

a controller operable to fly the aircraft;

one or more biometric devices on the controller reading biometric information from persons attempting to operate the controller to fly the aircraft, at least one of the biometric devices being a fingerprint/pulse reader capable of detecting an irregular pulse that signifies that the person attempting to operate the controller is in a distressed state;

one or more monitoring systems storing biometric information concerning all persons authorized to operate the aircraft, the one or more monitoring systems further receiving

the read biometric information from the one or more biometric devices and comparing the read biometric information against the stored biometric information of persons authorized to fly the aircraft;

one or more control systems in communication with the one or more monitoring systems to regulate operation of the aircraft during any phase of an aircraft's flight by allowing or disallowing persons to fly the aircraft depending on whether or not an authorized person has been identified, wherein during flight comprises the phases of starting up of the aircraft, movement of the aircraft from a fixed position, take-off or landing of the aircraft, taxiing of the aircraft as well as in the air flight; and

a GPS system in communication with the one or more monitoring systems, the GPS system being configured to send position information to designated locations when an unauthorized person is identified and when the aircraft flies off its normal course.

41. (original) The aircraft of claim 40, wherein the one or more biometric devices comprises a fingerprint reader on the controller of the aircraft.

42. (original) The aircraft of claim 40, wherein the one or more biometric devices comprises a pulse reader on the controller of the aircraft.

43. (original) The aircraft of claim 40, wherein the one or more biometric devices comprises a retina reader on the controller of the aircraft.

44. (original) The aircraft of claim 40, wherein the one or more monitoring systems comprises at least one computer and the one or more biometric devices comprises at least one of a fingerprint reader, a pulse reader or a retina reader.

45. (original) The aircraft of claim 40, wherein the one or more control mechanisms comprises at least one of the auto pilot control system, the controller, aircraft beacon system, a GPS system or any system operated by the controller.

46. (previously presented) The aircraft of claim 40, wherein the one or more control mechanisms comprise devices for restricting the function of the controller if it is determined that a person is not authorized to fly the aircraft.

47. (original) The aircraft of claim 40, wherein the one or more control mechanisms comprises devices for operating the aircraft in auto pilot mode when an unauthorized person attempts to fly the aircraft.

48. (original) The aircraft of claim 40, further comprising devices for alerting authorities outside of the aircraft when an unauthorized person attempts to fly the aircraft.

49. (original) The aircraft of claim 40, further comprising devices for sending at least one of biometric information or photograph read from an unauthorized person to authorities outside of the aircraft.

50. (original) The aircraft of claim 40, wherein the one or more biometric devices comprises a pulse reader for reading pulses of the person when the person is grasping the controller, the system further comprising devices for alerting authorities outside of the aircraft when there is an unusual pulse reading from the person.

51. (original) The aircraft of claim 40, further comprising a retina reader mounted proximate a pilot or copilot seat for reading the retina of the person attempting to fly the aircraft when the person is seated in either the pilot or copilot seat.

52. (original) The aircraft of claim 51, further comprising devices for engaging or disengaging the auto pilot where it is determined that an authorized person is in the pilot or copilot seat.

53. (cancelled)

54. (original) The aircraft of claim 40, further comprising one or more biometric devices associated with at least one of a door to the cockpit area or a door to a storage compartment to restrict access to designated persons.

55. (original) The aircraft of claim 54, wherein the one or more biometric devices comprises a fingerprint reader.

56. (original) The aircraft of claim 54, further comprising a camera mounted on the cockpit area adapted for at least one of taking a retina read of designated persons in response to sensed motion or a photograph of designated persons.

57. (original) The aircraft of claim 56, further comprising devices for transmitting the photograph to authorities outside of the aircraft.

58. (original) The aircraft of claim 40, further comprising an aircraft beacon system in communication with the one or more monitoring systems, wherein an unauthorized person is unable to turn off the aircraft beacon system.

59. (previously presented) A security mechanism of claim 5, wherein the at least one biometric device comprises a fingerprint/pulse reader on the control, and which is contacted by one or more of the pilot's fingers.

60. (previously presented) A security mechanism of claim 6, wherein the at least one computer is located on the aircraft or a location outside of the aircraft.

61. (previously presented) A security system of claim 12, wherein the at least one computer is disposed on the aircraft or a location outside of the aircraft.

62. (previously presented) A security mechanism of claim 1, wherein reading information associated with a user attempting to operate the controller further comprises:

monitoring a user's pulse; and

determining if the user is in a distressed state where there is either an irregular pulse or a rapid pulse.

63. (previously presented) A security mechanism of claim 1, wherein the stored information includes designated permissions assigned to the user.

64. (previously presented) A security mechanism of claim 63, wherein the designated permissions include the ability to turn off and on the aircraft beacon system.

65. (previously presented) A security mechanism of claim 63, wherein the designated permissions include the ability to service the aircraft.

66. (previously presented) A security mechanism of claim 63, wherein the designated permissions correspond to a category of personnel.

67. (previously presented) A security mechanism of claim 66, wherein permission to fly an aircraft is provided to only specific pilots and co-pilots that have been assigned to a particular flight.

68. (previously presented) A security mechanism of claim 1, wherein the stored information for all authorized users is stored prior to flight.

69. (previously presented) A security mechanism of claim 1, wherein a user is restricted from operating the controller until being identified as an authorized user.

70. (previously presented) A security system of claim 13, wherein the GPS system sends the position of the aircraft to designated locations when the aircraft attempts to fly off of a preprogrammed course.

71. (currently amended) The security mechanism of claim 1, wherein, the one or more monitoring devices are operable to disable the controller at any time prior to takeoff and at any time during a flight, and in one an identification verification step by comparing the information of the user attempting to operate the controller against the stored information as to all authorized users.